

MESAPAMEA SECALELLA REMM — A JUNIOR SYNONYM OF
MESAPAMEA DIDYMA ESPER (LEP.: NOCTUIDAE)

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Abstract

In this paper, the names of the common rustic moth (*Mesapamea secalis* L.) and the lesser rustic (*Mesapamea secalella* Remm) are discussed. Evidence is presented that the common rustic is indeed *Mesapamea secalis* L., but that the lesser rustic, *Mesapamea secalella* Remm is a junior synonym of *Mesapamea didyma* Esper. The lectotype of *Noctua didyma* Esper, 1788, and the neotype of *Phalaena secalis* Linnaeus, 1758 are designated.

The common rustic moth

During the 19th Century the common rustic moth was known as *Hadena (Apamea) didyma* Esper. Aurivillius (1891), in his work on the northern European Macrolepidoptera referred to this species as *Hadena secalis* (L.) Bjerk. This name, with the two authors, was repeated in Staudinger and Rebel's important catalogue of Palaearctic Lepidoptera, issued in 1901, and thus *secalis* L. became the accepted name for the common rustic.

In 1983 Robinson and Schmidt Nielsen published an extensive paper reviewing the microlepidoptera described by Linnaeus and Clerck. One of these species was *Phalaena (Pyralis) secalis* Linnaeus, 1767. In the author's collection, kept by the Linnean Society of London, a pyralid was found with a label in Linnaeus' handwriting, reading "*secales*" (sic). This specimen was designated as the lectotype of *Ph. (P.) secalis*.

Thus doubt was cast on the true name of the common rustic moth. Kaaber & Skule (1985), in the Danish check-list, remarked "our well-known *Mesapamea* is therefore currently unnamed", and the 1987 Swedish catalogue expressed doubts by recording the species as *?secalis*. This pessimism is, however, unjustified and the name *Phalaena (Noctua) secalis* Linnaeus, 1758, is perfectly valid as a little detective work will show.

Swedish rye-fields in the 17th and 18th centuries were affected by a condition known as "hvitax" (white ears), in which the tops of the ears died and turned white. This condition was originally ascribed to abiotic causes such as cold or wet, but in 1748 Rolander found that a lepidopteron larva was responsible. He succeeded in breeding the moth and in 1752 published an extensive article in which he described how the larva entered the stalk, eventually causing the death of the ear. He described the larva, pupa and moth, summarising the latter as follows: "PHALAENA seticornis, spirilinguis, fasciculata; alis depressis fuscis,

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striatis; A Latino inscriptis". (The A is the reniform stigma with its dark centre cf. Dahlbohm, 1837.) In 1758 Linnaeus described *Phalaena (Noctua) secalis*, mentioned Rolander's article, used with minor changes his Latin description of the moth and summarised Rolander's description of the biology. Thus there is no doubt that *Phalaena (Noctua) secalis* is the insect that caused "white ear".

Linnaeus had never seen the species himself, and his doubt about the identity was such that he omitted it from the *Fauna Svecica*! Later, he obtained a pyralid new to him and, supposing that this was the wrongdoer, described it in 1767 as *Phalaena (Pyralis) secalis* with practically the same description as in 1758. Small wonder that nobody could recognise such a pyralid!

Returning to the Swedish literature, Bjerkander (1778) published new data on the relationship of white ear and larval damage. However, neither in the title nor the contents is a scientific name mentioned, so why Aurivillius (or Staudinger and Rebel who copied him) should consider Bjerkander the real author of the name *secalis* is a puzzle.

In 1837, Dahlbohm's book on economically important Scandinavian insects was published, and this provided the solution to the identity of the "white ear moth". One of the two coloured plates in this work figures the moth and its larva. Schöyen (1879) discussing the identity of *Pyralis secalis* L. concluded that Dahlbohm's figure clearly represented *Hadena didyma* Esper. This conclusion was correct, the moth being the species we now know as *Mesapamea secalis* (Linnaeus). *Phalaena (Noctua) secalis* Linnaeus, 1758 and *Phalaena (Pyralis) secalis* Linnaeus, 1767 are two different species. The second name, as a junior homonym, is of course invalid. Moreover, it is also a junior synonym of *Phalaena (Pyralis) frumentalis* Linnaeus, described by him in 1761! (Robinson and Nielsen.)

In order to fix the identity of *Phalaena (Noctua) secalis* Linnaeus, 1758, it is necessary to designate a neotype, especially as Rezbanyai (1985) has described a third European species, *Mesapamea remmi*, from the *secalis* complex. These three species can only be separated with certainty by examination of the genitalia. Dr B. Gustafsson (Naturhistoriska Riksmuseet, Stockholm) kindly sent me five Swedish specimens from which I selected the one that most resembles Rolander's description and Dahlbohm's figure. The label reads: "Ol(and) Råpplinge ♀; Emilsro; 31.7.1986; B. Gustafsson". Both the neotype and its genitalia are figured (Figures 1 and 3). The specimen belongs to Tutt's *reticulata* group: rather pale brownish grey forewings, with distinct transverse lines and a yellow reniform stigma, "probably the commonest form in Britain" says Tutt (1891). Heinicke (1960) also discussed the species at great length, but this work is of limited use as it preceded both the splitting of the European *secalis* group and the difficulties caused by Linnaeus' two *secalis* species.



Figure 1. *Mesapamea secalis* L. Genitalia of neotype. Slide no. 238. R. deVos, Coll. Naturhistoriska Riksmuseet, Stockholm.

The lesser rustic

The discovery of the generally smaller *Mesapamea secalella* by Remm (1983) is now well known. This species occurs throughout most of Europe, and may be locally as common as the true *secalis*. In the 18th and 19th centuries several *secalis* forms were described as good species, simply because transitional forms were missing from the small collections from which they were described.

The first author to figure and name *secalis* forms as good species was E. J. C. Esper. In 1788, plate 126 of Vol. 4 of his great work on the European Lepidoptera was issued. The noctuid depicted in fig. 7 was

named by him *Noctua didyma*. According to Horn (1926) part of Esper's collection was transferred from the museum in Erlangen (Esper's home, about 20 km NNW from Nürnberg, Bavaria) to the zoological museum in München. At my request, Dr W. Dierl, keeper of Lepidoptera, looked for *secalis* specimens in the Esper collection, and found two. When he visited Amsterdam in 1986 for the Third European Congress of Entomology, he brought the two specimens, together with genitalia slides he had already prepared. The specimens are a male and a female. The female, still in excellent condition, is the specimen illustrated in fig. 7, in 1788. The genitalia show it to be a true *secalis*. The male, which is a little worn, is an undoubted *secalella*! For Esper, both specimens belonged to the same species. He wrote (p.378, 1796) that *Noctua didyma* varies considerably in colour and markings, but is especially characterised by the black line above the inner margin of the forewings.

I am therefore entitled to designate this male as the lectotype of *Noctua didyma* Esper, 1788. In this way we are sure that no older species name for the moth exists. The name *secalella* Remm, 1983 thus becomes a junior synonym. Both of Esper's specimens are figured (figs. 4 and 5) but for convenience only the aedeagus of the lectotype (fig. 2), which is sufficient to confirm its identity.



Figure 2. *Noctua didyma* Esp. Aedeagus of lectotype (enlarged). Slide no. 2646. W.Dierl, Zoologische Staatssammlung, München.

We owe it to the careful way in which Esper preserved his specimens that so many still exist. Each one was kept in a small, glass-topped cardboard box, where they have remained undisturbed all these years. For interest, the female *Noctua didyma* is shown in Esper's original box (fig. 6).

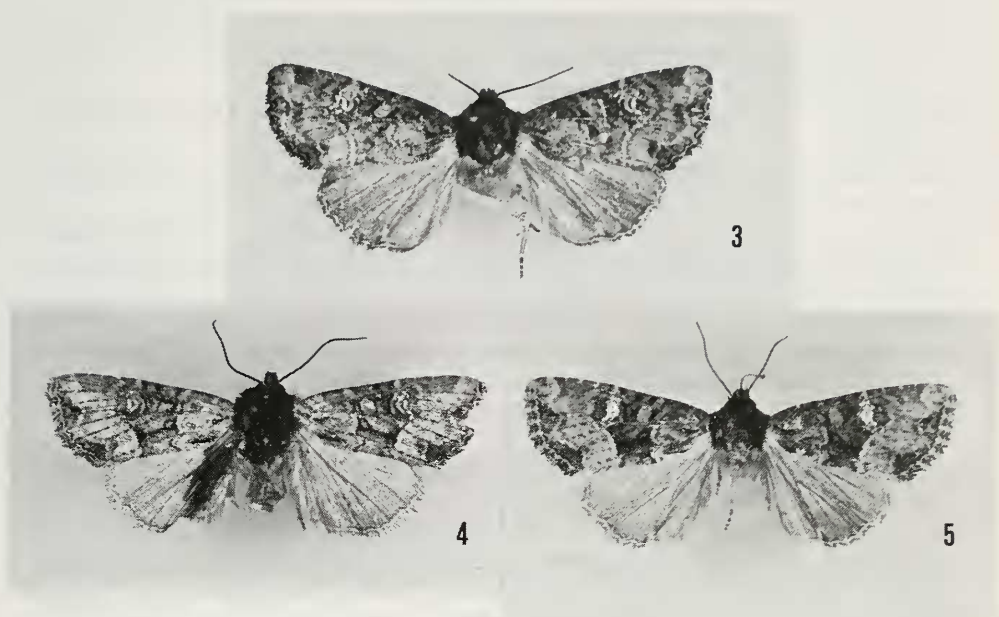


Figure 3. *Mesapamea secalis* L. Female, neotype. $\times 1\frac{1}{2}$. Coll. Naturhistoriska Riksmuseet, Stockholm.

Figure 4. *Noctua didyma* Esp. Male, lectotype. Esper collection no. 1026. $\times 1\frac{1}{2}$. Zoologische Staatssammlung, München.

Figure 5. *Noctua didyma* Esp. Female. Esper collection no. 1027. $\times 1\frac{1}{2}$. Zoologische Staatssammlung, München.



Figure 6. *Noctua didyma* Esp. Esper's female in its original box. Natural Size.

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A NOTE ON TINAGMA BALTEOLELLA F.v.R. (LEP.: DOUGLASIIDAE) — In the autumn of 1987 I collected a number of dead stems of viper's bugloss (*Echium vulgare*) from the shingles at Dungeness, Kent, in order to breed and photograph the common, stem-feeding species *Tinagma ocnerosomella* Staint.

The stems were hung outside, exposed to the elements, all winter and brought inside late April 1988. On 9th May the first of a considerable number of *T. balteolella* emerged. This species was first added to the British list in 1976 (Agassiz, *Ent. Gaz.* **26**: 291-293) and, as far as I am aware, has only been noted from the coastal sand-dunes of east Kent, from where it was first recorded. Dungeness is geographically reasonably close to the original locality, but ecologically very different.

Perhaps it is worth looking further afield for this easily overlooked species? PAUL SOKOLOFF, 4 Steep Close, Orpington, Kent.